forestry report

No. 33 (June 1987) Northern Forestry Centre Edmonton, Alberta

# Saskatchewan's forests

The forest is Canada's most valuable renewable natural resource, and the benefits provided by the forests to the people of Saskatchewan are numerous.

Some benefits are intangible and difficult to assess, such as protecting agriculture crops, regulating water flow, controlling erosion, producing oxygen, providing food and shelter for wildlife, and creating a pleasing environment for recreational activities by hikers, fishermen, campers, and nature lovers.

Other benefits, such as timber production, are tangible and can be measured in terms of the various goods and services they contribute to the makeup of the forest industry in Saskatchewan.

The tables and facts presented on the following pages attempt to show the most significant characteristics of the Saskatchewan forest scene. Emphasis is on the forest industry and the forest land base from which the trees are harvested.

Information presented here is based on data collected in 1984-85.

Saskatchewan's forest—a renewable resource.

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Today's seedling—tomorrow's forest.

## Forest regions of Saskatchewan

PARKS, RECREATION AND CULTURE ADMINISTRATIVE REGIONS

1 - La Ronge
2 - Meadow Lake
3 - Prince Albert
4 - Saskatoon
5 - Hudson Bay
6 - Swift Current
7 - Regina
8 - Melville
[] - Prince Albert national park

FOREST REGIONS

Boreal
- Forest and barren
- Predominantly forest
- Forest and grass
- Grassland

*Source: Rowe 1972.*

## Conversion factors

| Metric | Imperial |
|---|---|
| 1 centimetre (cm) | 0.3937 inch (in.) |
| 1 metre (m) | 3.2808 feet (ft) |
| 1 hectare (ha) | 2.47 acres |
| 1 square kilometre ($km^2$) | 0.3861 square miles ($mi^2$) |
| 1 tonne (t) | 1.1023 tons (T) |
| 1 t (wood chips) | 0.9167 bone dry units (BDU) |
| 1 180 $m^2$ sheet product (1-mm basis) | 1 $ft^2$ (1/2-in. basis) |
| 1 cubic metre ($m^3$) roundwood | 35.3147 cubic feet ($ft^3$) roundwood |
| 1 $m^3$ processed lumber (solid wood) | 616 board feet (foot board measure, fbm) processed lumber |

M = 1 000, MM = 1 000 000

## Area classification

| | Saskatchewan '000 $km^2$ | Saskatchewan % | Canada '000 $km^2$ | Canada % |
|---|---|---|---|---|
| **Land classification** | | | | |
| Forested | | | | |
| Commercial forest | | | | |
| —Productive | 77 | — | — | — |
| —Unproductive | 52 | — | — | — |
| —Total | 129 | 20 | — | — |
| Northern reconnaissance forest[a] | | | | |
| —Productive | 40 | — | — | — |
| —Unproductive | 130 | — | — | — |
| —Total | 170 | 26 | — | — |
| Total forested land | 299 | 46 | 4 364 | 44 |
| Agriculture | 264 | 40 | 672 | 7 |
| Urban and cleared | 4 | 1 | 34 | —[b] |
| Other[c] | 3 | —[b] | 4 097 | 41 |
| **Total land** | 570 | 87 | 9 167 | 92 |
| **Total water** | 82 | 13 | 755 | 8 |
| **Total area** | 652 | 100 | 9 922 | 100 |

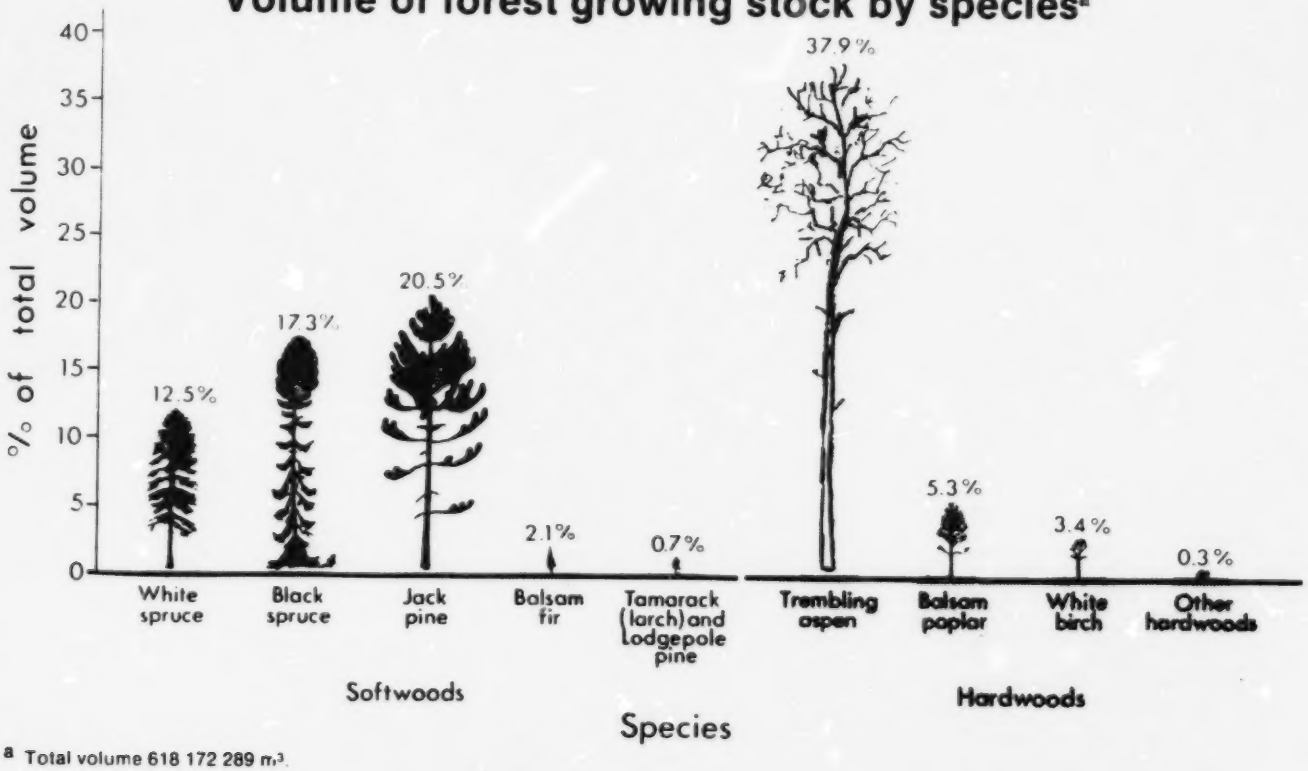
[a] Best estimate of noninventoried forest land, with forest defined as land primarily intended for growing or currently supporting forest

[b] Less than 1%

[c] Primarily wild land that includes tundra, alpines, and barrens and is generally uninfluenced by human activity

*Sources: The Canadian Forestry Service and Saskatchewan Parks, Recreation and Culture*

## Volume of forest growing stock by species[a]




[a] Total volume 618 172 289 $m^3$.

*Source: Saskatchewan Department of Parks, Recreation and Culture.*

## Stocked, productive, and nonreserved forest land by ownership

| Ownership | Saskatchewan '000 km² | Saskatchewan % | Canada '000 km² | Canada % |
|---|---|---|---|---|
| Provincial crown | 63[a] | 97 | 1 549 | 81 |
| Federal crown[b] | 2 | 3 | 197 | 10 |
| Private | 0 | 0 | 164 | 9 |
| Municipal | 0 | 0 | 1 | — [c] |
| **Total** | 65 | 100 | 1 911 | 100 |

[a] Commercial forest only.
[b] This group includes Indian reserve lands.
[c] Less than 1%.

*Sources: The Canadian Forestry Service and Saskatchewan Parks, Recreation and Culture.*

## *Annual allowable cut*

The annual allowable cut from Saskatchewan's forests is equal to the annual growth, assuming that cutovers fully regenerate immediately after harvesting. The intent is to utilize this annual increment and still maintain the current level of growing stock. This is similar to spending the interest earned from a bank deposit without reducing the principal.

As the level of intensive forest management (e.g., stand tending practices such as thinning and fertilizing) increases in Saskatchewan, there will be an increase in the growing stock and a corresponding increase in the annual allowable cut. On the other hand, significant forest losses due to fire, insects, and diseases or the allocation of forest lands for other single-purpose uses such as agriculture and parks can reduce the annual allowable cut.

Saskatchewan is in the enviable position of having a surplus of timber; however, some of this timber is located in remote areas and at present is not economically accessible. Currently only 56% of the softwood and 16% of the hardwood annual allowable cuts are utilized.

Typical high-density jack pine stand.

**Thinning to reduce stocking density.**

# *Silviculture*

Silviculture is the science and art of growing and tending a forest crop. It is comparable to agronomy in agriculture, since both are concerned with the technical details of crop production. Silviculture is directed at the creation and maintenance of the kind of forest that will best fulfill the biological and economical objectives of the owner—the people of Saskatchewan.

## Silvicultural activities 1985

| Activity | Area (ha) |
|---|---|
| Reforestation—Planting (9.2 million trees) | 4 858 |
| —Seeding | 0 |
| —Site preparation for natural regeneration | 2 585 |
| —Net reforested | 7 443[a] |
| Stand tending | 1 916 |
| **Total treated** | 9 359 |
| **Total harvested** | 21 910[b] |

[a] Of the area harvested, approximately 4 930 ha (22.5%) regenerate naturally; this acreage is not reflected in this total.

[b] Refers to softwood harvest only.

*Source: Saskatchewan Parks, Recreation and Culture.*

## Primary forest products

| Product | Production |
|---|---|
| Lumber[a,b] (dimension, boards, and timbers)—$m^3$ | 402 829 |
| Treated products | |
| Lumber[b]—$m^3$ | 7 362 |
| Posts, poles, and rails[c]—$m^3$ | 59 109 |
| Miscellaneous wood products—$m^3$ | |
| (ties, lath,[b] and | 1 652 |
| house logs[c])—$m^3$ | 1 045 |
| Fuelwood[c]—$m^3$ | 144 853 |
| Logs and pulpwood[c]—$m^3$ | 368 100 |
| Wood chips—t | 141 230 |
| Plywood (1 mm basis)—'000 000 $m^2$ | 71 |
| Waferboard (1 mm basis)—'000 000 $m^2$ | 154 |
| Kraft pulp and paper—t | 264 400 |

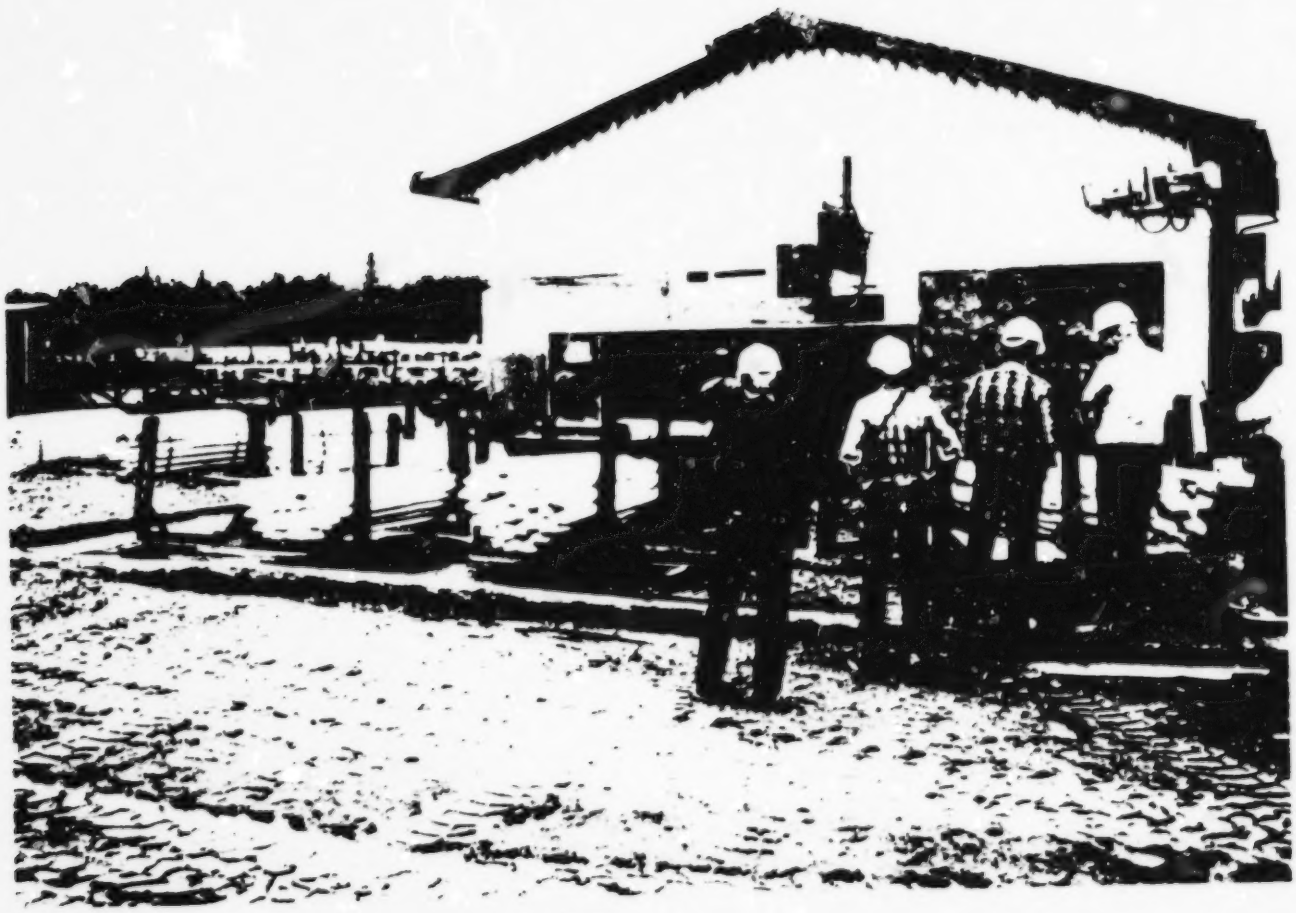
[a] Included in this value is independent planing mills production of 12 984 m, which includes rough lumber produced by the sawmill industry.

[b] Processed lumber; volume based on the actual size of the sawn product (i.e., 3.8 × 8.9 cm or 1½ × 3½ in.) and not on the nominal size (i.e., 5.1 × 10.2 cm or 2 × 4 in.). The conversion factor used is 1 $m^3$ of processed lumber is equal to 616 board feet (fbm) of processed lumber.

[c] Refers to volume of roundwood. The conversion factor used is 1 $m^3$ is equal to 35.315 cu. ft.

*Sources: The Canadian Forestry Service and Saskatchewan Parks, Recreation and Culture.*

Wider spacing improves tree growth.

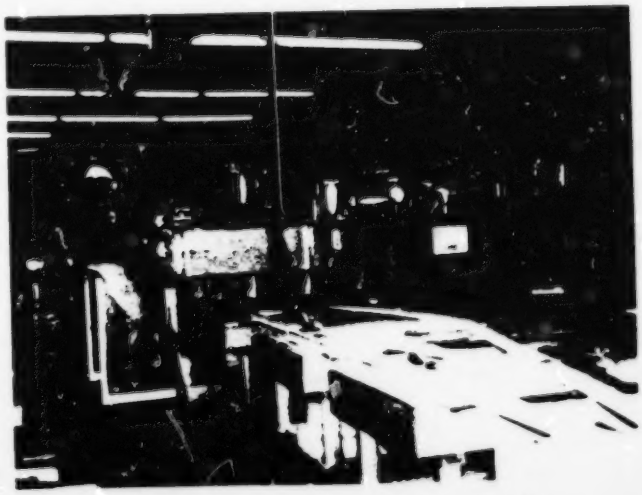


Jack pine logs used to make posts and poles—primary manufacturing.

## *Principal uses of Saskatchewan's tree species*

### Softwood species

**White and black spruce** (*Picea glauca* (Moench) Voss and *Picea mariana* (Mill.) B.S.P.) are nearly indistinguishable in their wood structure. The wood is light colored, has low weight when dried, is soft, resilient, and straight grained, and has good machining properties. Both species are in great demand for pulp, paper, and newsprint manufacturing because of their long fibers and low resin content. The wood is also highly valued for plywood and lumber. As lumber it is used in all forms of building construction and in general millwork. Spruce is both Saskatchewan's and Canada's most important wood species in terms of volume harvested. White spruce is being considered for designation as the official tree of the province.



Spruce lumber used to make truss rafters—secondary manufacturing.

Softwood lumber used for house construction.

**Balsam fir** (*Abies balsamea* (L.) Mill.) is similar to spruce in most physical characteristics, though fir is less resilient and has lower strength properties than spruce. Balsam fir is used for many of the purposes for which spruce is utilized. Fir is graded and marketed in the species grouping spruce-pine-fir.

**Jack pine** (*Pinus banksiana* Lamb.) wood is light brown in color, has medium strength and hardness characteristics, and machines and finishes well. Pine is used for pulp and paper, newsprint, lumber, fuelwood, and treated wood products such as railway ties, posts, and poles. Jack pine is the most common conifer found in Saskatchewan.

**Lodgepole pine** (*Pinus contorta* Dougl.) wood is almost white in color and is soft and straight grained with a fine uniform texture. The wood is of medium strength, seasons readily, takes a good finish, and yields a good grade of small, tight-knotted lumber similar to that of jack pine. Pine is used for pulp and paper, lumber, fuelwood, and when treated is used for railway ties, posts, and poles. In Saskatchewan, lodgepole pine is found only in the Cypress Hills area in the southwestern part of the province; this is the farthest east that the species ranges in Canada.

**Tamarack or larch** (*Larix laricina* (Du Roi) K. Koch) is not in great demand partly because of its limited availability. The wood is moderately hard and heavy, is somewhat oily, and tends to have a spiral grain that makes it undesirable for most lumber uses. Nevertheless, its strength, durability, and moderate resistance to decay makes it well suited for special purposes such as floor planking, building skids, pilings, posts, and poles.

## Hardwood species

**Trembling aspen** (*Populus tremuloides* Michx.), commonly referred to as poplar, makes up the majority of hardwood volume available in Saskatchewan and is the only hardwood species used commercially to any great extent. The wood is white to grayish white in color, relatively resistant to wear, usually straight grained with a fine even texture, and comparable to spruce in strength. The wood when properly seasoned works well, holds nails satisfactorily, and takes a good finish. Due to its general availability and increased customer acceptance, the use of aspen is steadily increasing. Aspen is used for making waferboard, oriented strand board, paperboard, pulp and paper, plywood, lumber, pallets, boxes, furniture stock, flooring, chopsticks, and fuelwood and for interior finish and trim.

**Balsam poplar** (*Populus balsamifera* L.), also known as poplar, is similar to trembling aspen in most wood characteristics, although balsam poplar has a coarser texture and a higher incidence of wet pockets in the wood. These drawbacks and the availability of trembling aspen have detracted from increased use of balsam poplar. Balsam poplar can be used for most products for which aspen is utilized.

**White birch** (*Betula papyrifera* Marsh.), white elm (*Ulmus americana* L.), green ash (*Fraxinus pennsylvanica* Marsh. var. *subintegerrima* (Vahl) Fern.), eastern cottonwood (*Populus deltoides* Bartr.) and Manitoba maple (*Acer negundo* L.) are other hardwood species that have limited commercial use as furniture stock, interior finishing wood, flooring, and fuelwood. These trees are often seen in shelterbelts across the province.

# Value of shipments in the manufacturing sector

| Rank by Industry[a] | Value of shipments of goods of own manufacture $000 000 | % |
|---|---|---|
| **Saskatchewan** | | |
| 1. Food | 878 | 30.8 |
| 2. Forest industry (wood industries and paper and allied industries[b]) | 290[c] | 10.2 |
| 3. Machinery | 156 | 5.5 |
| 4. Chemical and chemical products | 141 | 4.9 |
| 5. Nonmetallic mineral products | 113 | 4.0 |
| 6. Electrical and electronic products | 104 | 3.6 |
| 7. Metal fabricating | 97 | 3.4 |
| 8. Transportation equipment | 46 | 1.6 |
| 9. Clothing | 17 | 0.6 |
| 10. Plastic products | 13 | 0.5 |
| Other | 997 | 34.9 |
| **Total** | 2 852 | 100.0 |
| **Canada** | | |
| 1. Transportation equipment | 37 916 | 16.5 |
| 2. Food | 31 624 | 13.7 |
| 3. Forest industry (wood industries and paper and allied industries) | 27 444[c] | 11.9 |
| 4. Petroleum and coal products | 23 337 | 10.1 |
| 5. Chemical and chemical products | 17 175 | 7.5 |
| 6. Primary metal products | 16 431 | 7.1 |
| 7. Metal fabricating | 12 193 | 5.3 |
| 8. Electrical and electronic products | 11 632 | 5.1 |
| 9. Printing, publishing, and allied industries | 8 659 | 3.8 |
| 10. Machinery | 6 863 | 3.0 |
| Other | 36 796 | 16.0 |
| **Total** | 230 070 | 100.0 |

a For Saskatchewan, rank relates only to industry groups for which data can be published due to confidentiality constraints.

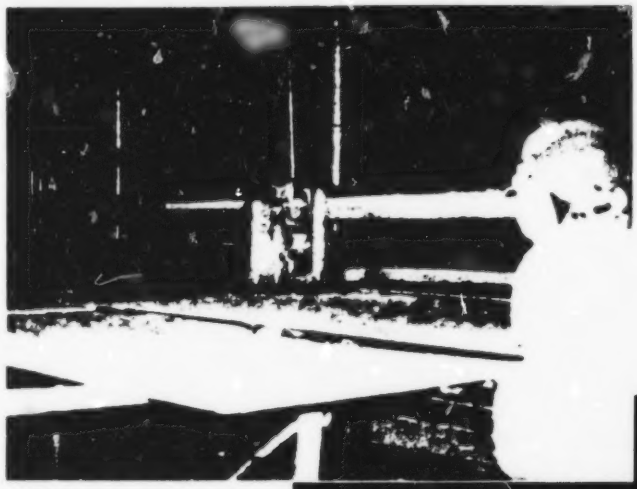
b Estimated by the Canadian Forestry Service.

c These values do not include the value of shipments for the primary forestry activity (i.e., logging, SIC 0410). Since logging is a primary activity it is not included in the manufacturing sector. Incremental values of shipments for the logging industry totaled $72.4 and $5 364 million for Saskatchewan and Canada, respectively, in 1984–85.

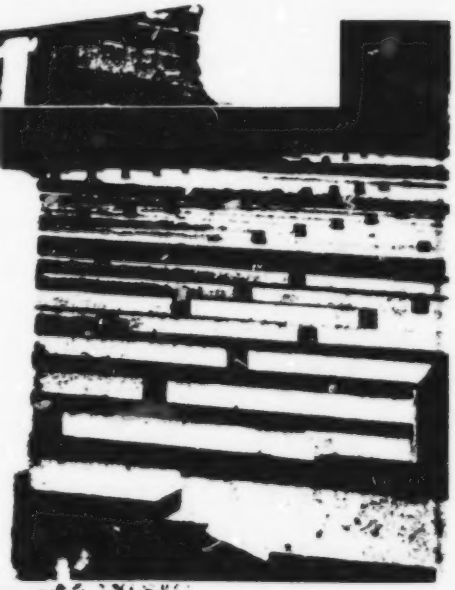
*Sources: Statistics Canada and the Canadian Forestry Service.*

## *Value of shipments*

Value of shipments refers to the total value of sales excluding discounts, returns, allowances, sales tax, excise duties, and the cost of transporting the product to market. The value is essentially the total revenue of the goods shipped from a firm or industry. The total value of shipments of forest products in Saskatchewan in 1984–85 was $362.4 million.



Waferboard manufactured from hardwoods



Grading lumber ensures a high-quality product

Lumber is often shipped by truck to customers, both in and out of the province.

## *Value added*

In the process of creating manufactured goods, a number of intermediate goods and services are purchased by firms and are used during production.

A few examples of intermediate goods and services in the forest industry include fuel and electricity, wood-preserving chemicals, pulp-treating chemicals, contractor fees, and lawyer and accountant fees. Without the use of these purchased intermediate goods and services, the forest product firm could not produce the form of output demanded by consumers.

Value added is defined as the difference between total revenue and the cost of all purchased materials, supplies, and services. Value added therefore includes payments to labor, depreciation, profits, and taxes.

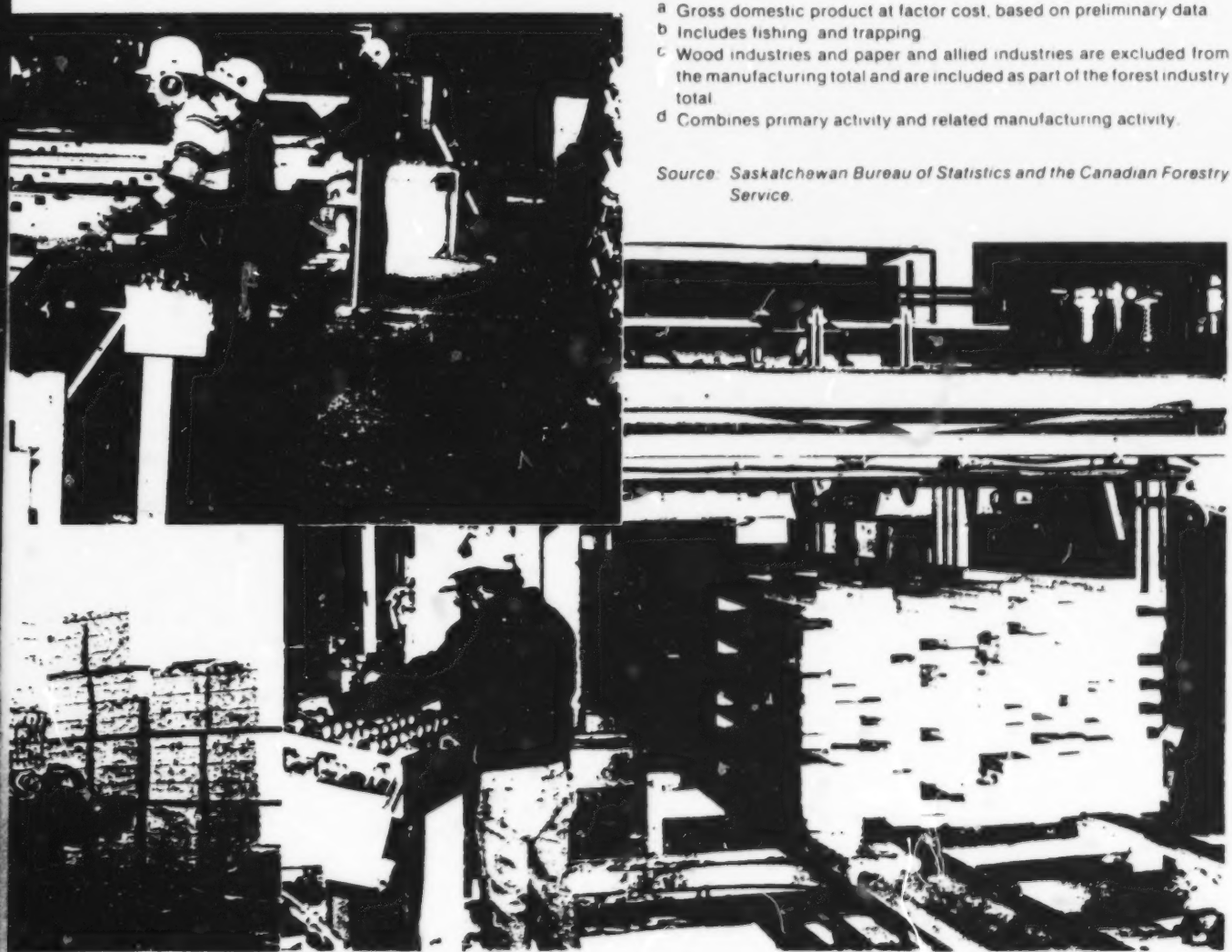
The value added for the country as a whole is often described as its gross domestic product (GDP). The value added generated by a particular industry is a measure of that industry's contribution to a total regional, provincial, or national income.

## Value added—provincial

| | Saskatchewan | |
|---|---|---|
| | $000 000 | % |
| **Gross domestic product by sector[a]** | | |
| Goods producing | 5 676 | 35.0 |
| (Forest industry) | (148) | (0.9) |
| Service producing | 10 538 | 65.0 |
| **Total** | 16 214 | 100.0 |
| **Goods producing industries** | | |
| Mining | 2 129 | 37.5 |
| Agriculture[b] | 1 817 | 32.0 |
| Manufacturing[c] | 822 | 14.5 |
| Construction | 760 | 13.4 |
| Forest industry[d] (forestry (logging), wood industries, and paper and allied industries) | 148 | 2.6 |
| **Total** | 5 676 | 100.0 |

[a] Gross domestic product at factor cost, based on preliminary data
[b] Includes fishing and trapping
[c] Wood industries and paper and allied industries are excluded from the manufacturing total and are included as part of the forest industry total
[d] Combines primary activity and related manufacturing activity.

*Source: Saskatchewan Bureau of Statistics and the Canadian Forestry Service.*



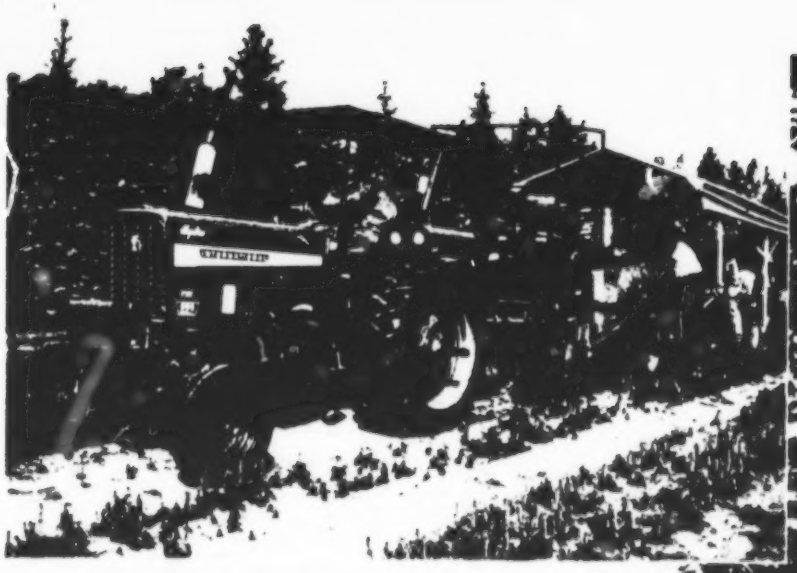
Unit strapping and wrapping lumber lifts.

# Destination of primary forest products by value

| Product | Destination | | | | | | Total value ($000) |
|---|---|---|---|---|---|---|---|
| | Saskatchewan (%) | Alberta/B.C. (%) | Manitoba (%) | Eastern Canada (%) | United States (%) | Abroad (%) | |
| Lumber (dimension, boards, and timbers) | 19 | 1 | 15 | 13 | 52 | 0 | 56 755 |
| Treated products (lumber, posts, poles, and rails) | 66 | 12 | 9 | 11 | 2 | 0 | 9 601 |
| Miscellaneous wood products (ties, laths, and house logs) | 50 | 50 | 0 | 0 | 0 | 0 | 445 |
| Logs and pulpwood | 100 | 0 | 0 | 0 | 0 | 0 | 9 651 |
| Fuelwood | 100 | 0 | 0 | 0 | 0 | 0 | 5 838 |
| Wood chips | 64 | 0 | 36 | 0 | 0 | 0 | 6 024 |
| Kraft pulp and paper, plywood, and waferboard | 3 | 1 | 6 | 23 | 43 | 24 | 217 639 |
| Total value | 14.0 | 1.2 | 8.1 | 18.9 | 40.3 | 17.5 | 305 953 |

*Source: The Canadian Forestry Service.*

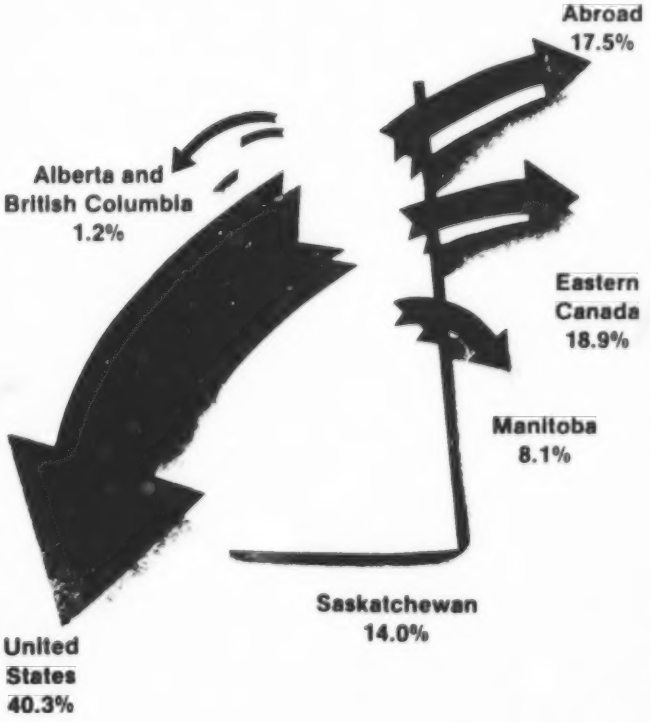
Spruce seedlings in nursery beds at Prince Albert Forest Nursery.



Lifting spruce seedlings from nursery beds.

Planting spruce seedlings.

## Market destination of Saskatchewan's primary forest products[a]




[a] By proportion of total value.

*Source: The Canadian Forestry Service.*

A managed stand of 70-year-old spruce—a forestry research project showing improved yields are possible.

# Direct and indirect employment (total activity)

| | No. of firms | Direct employment (Person-years) | Indirect employment (Person-years) | Total employment (Person-years) | Employment multiplier[a] |
|---|---|---|---|---|---|
| **Primary industry[b]** | | | | | |
| Sawmills | | | | | |
| Greater than 8115 $m^3$ (>5 MM fbm) | 6 | 874 | 1 576 | 2 450 | 2.803 |
| 1623-8115 $m^3$ (1 MM to 5 MM fbm) | 4 | 53 | 96 | 149 | 2.803 |
| 162-1623 $m^3$ (100 M to 1 MM fbm) | 34 | 78 | 141 | 219 | 2.803 |
| Less than 162 $m^3$ (<100 M fbm) | 116 | 22 | 40 | 62 | 2.803 |
| Independent planing mills | 2 | 12 | 22 | 34 | 2.803 |
| Plywood | 1 | 164 | 150 | 314 | 1.912 |
| Wood treating | 12 | 289 | 264 | 553 | 1.912 |
| Miscellaneous wood-using industries (building timbers, lath) | 3 | 5 | 5 | 10 | 1.912 |
| Pulp and paper | 1 | 773 | 1 772 | 2 545 | 3.293 |
| Waferboard | 1 | 211 | 192 | 403 | 1.912 |
| Independent log producers | N/A | 275 | 117 | 392 | 1.424 |
| **Total** | | 2 756 | 4 375 | 7 131 | 2.587 |
| **Secondary industry[c]** | | | | | |
| Sash, door, and other millwork industries (SIC[d] 254) | 40 | 317[e] | 176 | 493 | 1.555 |
| Wooden box and pallet industry (SIC 256) | 1 | 2[e] | 1 | 3 | 1.530 |
| Paper box and bag industries (SIC 273) | 2 | 110[e] | 81 | 191 | 1.734 |
| Other converted paper products industries (SIC 279) | 2 | 50[e] | 36 | 86 | 1.713 |
| **Total** | | 479 | 294 | 773 | 1.614 |
| **All forest industry** | | 3 235 | 4 669 | 7 904 | 2.443 |

[a] The multipliers used in this table are derived from the Manitoba Bureau of Statistics and are presented as weighted averages to reflect the forest industry classification system used in this report.
[b] Primary industry statistics are from the Canadian Forestry Service.
[c] Secondary industry statistics are from Statistics Canada.
[d] Standard Industrial Classification.
[e] Estimate.

*Sources: The Canadian Forestry Service and Statistics Canada.*

## *Employment multiplier*

An employment multiplier is a value that when multiplied by the direct employment of a given industry indicates the total direct and indirect employment generated by that industry. Indirect employment results from basic (i.e., export oriented) manufacturing activities.

$$\text{Direct employment} \times \text{Employment multiplier} = \text{Total employment}$$

$$\text{Direct} + \text{indirect employment}$$

i.e., pulp and paper—Prince Albert Pulp Co. Ltd. (now Weyerhaeuser Canada Ltd., Saskatchewan Division).

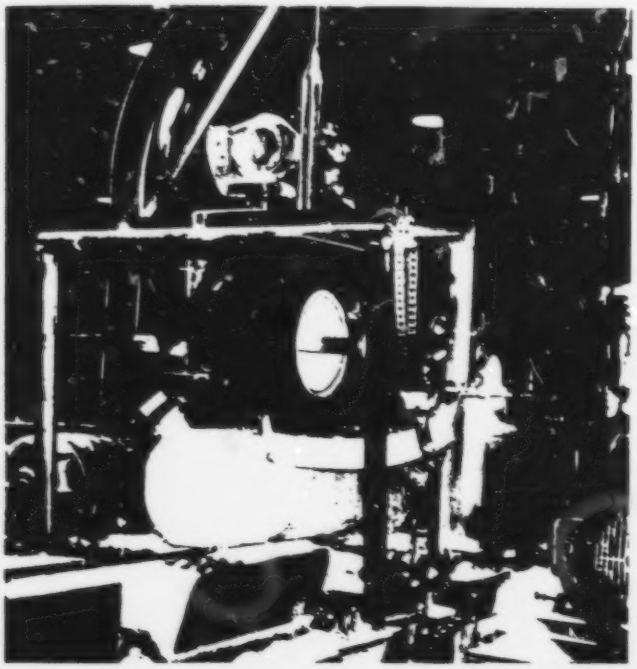
$773 \times 3.293 = 2545$ person-years total employment.

*Continued on next page.*

*Employment multiplier continued.*

In the forest industry, direct employment includes all persons directly employed in logging and the processing plants. Indirect employment includes all persons employed as an indirect result of forest industry activity, for example, sales personnel in local retail outlets, those employed in supplying the forestry complex with intermediate goods, and government employees required to maintain community services.

In Saskatchewan, one job in 55 is directly or indirectly dependent on the forest industry.



Primary log breakdown with twin band saws.

Secondary timber breakdown with band resaw.

# Salaries and wages

| Rank by manufacturing industry[a] | Salaries and wages for total activity $000 000 | % |
|---|---|---|
| **Saskatchewan** | | |
| 1. Food | 101 | 21.1 |
| 2. Forest industry (wood industries and paper and allied industries[b]) | 54[c] | 11.3 |
| 3. Machinery | 41 | 8.6 |
| 4. Electrical and electronic products | 39 | 8.1 |
| 5. Metal fabricating | 29 | 6.1 |
| 6. Nonmetallic mineral products | 26 | 5.4 |
| 7. Chemical and chemical products | 14 | 2.9 |
| 8. Transportation equipment | 13 | 2.7 |
| 9. Clothing | 5 | 1.0 |
| 10. Plastic products | 2 | 0.4 |
| Other | 155 | 32.4 |
| **Total** | 479 | 100.0 |
| **Canada** | | |
| 1. Forest industry (wood industries and paper and allied industries) | 6 057[c] | 14.1 |
| 2. Transportation equipment | 5 663 | 13.2 |
| 3. Food | 4 170 | 9.7 |
| 4. Primary metal | 3 598 | 8.4 |
| 5. Electrical and electronic products | 3 368 | 7.8 |
| 6. Metal fabricating | 3 114 | 7.2 |
| 7. Printing, publishing, and allied industries | 2 761 | 6.4 |
| 8. Chemical and chemical products | 2 614 | 6.1 |
| 9. Machinery | 1 809 | 4.2 |
| 10. Clothing | 1 595 | 3.7 |
| Other | 8 327 | 19.2 |
| **Total** | 43 076 | 100.0 |

a For Saskatchewan, rank relates only to industry groups for which data can be published due to confidentiality constraints

b Estimated by the Canadian Forestry Service

c These values do not include the salaries and wages paid for the primary forestry activity (i.e., logging, SIC 0410). Since logging is a primary activity it is not included in the manufacturing sector. Incremental salaries and wages paid in the logging industry totaled $15.6 and $1 324.2 million for Saskatchewan and Canada, respectively, in 1984–85.

*Sources: Statistics Canada and the Canadian Forestry Service.*

## Corporate and personal income taxes from the forest industry[a]

| Tax | Estimated taxes paid Saskatchewan ($000 000) | Canada ($000 000) |
|---|---|---|
| Corporate income | | |
| Provincial | 0.4 | 98.1 |
| Federal | 1.2 | 130.0 |
| Personal income | | |
| Provincial | 3.9 | 425.0 |
| Federal | 7.7 | 849.0 |

[a] Forest industry includes forestry (logging), wood industries and paper and allied industries.

*Sources: Statistics Canada and the Canadian Forestry Service.*

## Taxes

The table to the left presents only income taxes paid by the forest industry in Saskatchewan. Other taxes include sales tax; corporation capital tax; excise taxes on materials, supplies, and building and construction materials; and tax on gasoline and motive fuels. In total, approximately $21 million in taxes were collected from forestry firms and their employees in 1984. About 56% of the revenues accrued to the federal government and 44% accrued to the provincial government. The above total does not include fees and royalties received by the provincial government for timber acquisition, nor was any attempt made to estimate municipal property taxes.

## Uses of forest land

The table on page 15 quantifies only a few of the nontimber uses of forest land (most uses are not readily measurable). Such uses are vital to many activities, including the tourist and recreation industries. As these industries grow, the multiple use demand on forested land will increase. Forests are a generous endowment held in trust by the people of Saskatchewan for the continued use and enjoyment of future generations.

## Saskatchewan Forestry Division revenues and expenditures

| | $000 |
|---|---|
| **Revenues** | |
| Royalties and fees | |
| Pulpwood—license areas | 235 |
| —nonlicense areas | 103 |
| Sawtimber—license areas | 1 474 |
| —nonlicense areas | 471 |
| Other wood products—license areas | 101 |
| —nonlicense areas | 1 103 |
| Licenses and permits | 142 |
| Penalties and interest | 17 |
| Fire protection levy | 28 |
| Miscellaneous—sales and services, ground rental | 25 |
| **Total revenues** | **3 699** |
| **Expenditures** | |
| Forest inventory | 1 431 |
| Silviculture | 4 103 |
| Timber management | 406 |
| Reginal operation | 851 |
| Administration | 897 |
| Fire protection | 14 724 |
| **Total expenditures** | **22 412** |

*Source: Saskatchewan Parks, Recreation and Culture.*

Hiking—nonconsumptive use of forest land.

Water-skiing—Saskatchewan's forests provide a variety of recreation opportunities

## Saskatchewan's forests—a multiple use resource

| | |
|---|---|
| **Fish** | |
| Angling licenses—'000 | 179 |
| Estimated revenue—$000 | 1 961 |
| Estimated recreation days—'000 | 2 100 |
| Commercial fish catch—'000 kg | 3 479 |
| Estimated market value—$000 | 7 919 |
| **Game** | |
| Hunting licenses—'000 | 139 |
| Estimated revenue—$000 | 3 362 |
| Estimated recreation days—'000 | 369 |
| **Trapping** | |
| Trapper licenses—'000 | 18 |
| Estimated value of harvest—$000 | 5 099 |
| **Outdoor recreation**[a] | |
| Visitors—'000 | 4 679 |
| Campers in parks—'000 | 412 |
| Estimated park permit revenue—$000 | 2 823 |
| **Grazing** | |
| Animal unit months[b]—'000 | 119 |
| Estimated revenue—$000 | 118 |
| **Watershed benefits** | |
| Net mean annual yield[c] in river discharges —'000 000 m³ | 42 589 |

a Provincial parks and other recreational areas and national parks, 1984-85.

b An animal unit month is the amount of forage provided for one animal unit for one month. One animal unit is defined as one mature cow with calf or their equivalent. Statistics include sheep and horses.

c Difference between outflow and inflow river discharges, with the majority of water being produced in a forested area.

*Sources: Saskatchewan Parks, Recreation and Culture, Parks Canada, and the Canadian Forestry Service.*

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Tiger lily or western red lily (*Lilium philadelphieum* var. *andinum*), the floral emblem of Saskatchewan.

## Credits

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Detailed results of the forest industry survey are available in the *Directory of primary wood-using industries in Saskatchewan —1985* published by the Canada—Saskatchewan Forest Resource Development Agreement.

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